Can we reduce the proposed inputs into Lehigh Creek since we are showing a 24% increase?

**As proposed, the watershed diverted from south of the TDF into the west diversion and then to Lehigh Creek is fixed based on constraints imposed by topography and the narrowness of the restriction created by the slope intercept of the access road and the North Country Trail right-of-way, therefore it is difficult to design a feasible alternative plan. It is physically possible to reduce, from a 24% to a 21% increase, the watershed area of Lehigh Creek by redirecting water from the face of the west TDF berm from the Lehigh Creek watershed with a separate channel into the West Branch of Gipsy Creek watershed. However we determined that it was not a prudent alternative in that this scenario would result in impacts to three minor tributaries of Lehigh Creek as well as at least two wetland areas in order to create a channel to outlet to the West Branch of Gipsy Creek. Given the relatively small amount of water which could be redirected into the Gipsy Creek watershed and the associated natural resource impacts as discussed above, the redirection of runoff from the west TDF is not a prudent alternative given the relatively small stream flow modification anticipated with the proposed stream relocation design.**

Is it possible to divert stormwater through benches on the TDF berm side slopes?

**Attached please find a revised drawing (Figure B-19) that depicts a cross-section through the berms which will include "benches". However, Coleman Engineering and Golder Associates have advised that they do not expect these bench features to effect the amount of runoff that will eventually be discharged through the detention basins and ultimately to the on-site streams, as described above.**

Quantify the overall impact on the Lehigh Creek watershed.

**The attached, Stream Mitigation Summary includes a section in the table where we quantify the watershed areas both at the point of impact and at the mouth of Lake Superior.**

The plans submitted on November 9 depicted two detention basins on the north side of the TDF that did not show outlets.

**The attached plans (Figures B-18 & B-20) have been revised to show basin outlets into upland areas which will eventually drain into West Gipsy Creek and Middle Gipsy Creek. This is not a change to the drainage plans, but rather a clarification of this detail.**

Describe how the dikes would be vegetated. Will we allow trees to grow there?

**The outside side slopes of the TDF, including the stormwater berms, will be vegetated by seeding, fertilizing, and mulching exposed soil. Large woody vegetation will not be allowed to grow to maturity and will be cut or removed consistent with routine operation and maintenance activities at the site.**

We had previously indicated we had the need for about 1 million cubic yards of borrow to balance the site/TDF, and showed the areas where that much material would be coming from on Figure 1. Now we are saying 1.4 million cubic yards. We needed to identify the areas where we would obtain this additional 400,000 cubic yards. Could it come from underneath the temporary spoil area(s)?

**To "pile on" here to this issue, we actually discovered an error in the Response to Item #1 in the 10/30/12 Memorandum. The quantity in the first sentence of that Response should really have been 1.6 million cubic yards, not 1.4 million. Therefore, on the related issue associated with Item #8 and our Response, we have revisited the overall project quantities and have made the following changes to that Response. Since the west diversion has become a natural stream design that is much wider, the quantity of soil expected to be generated from that particular activity has risen from 80,000 to 125,000 cubic yards. In addition, we had previously overlooked 200,000 cubic yards of soil that the on-site wetland mitigation (construction) will generate, as well as the un-impacted soil that lies under the existing waste rock pile area. The following table shows the changes over the last several days.**

| Location of Source of Soil | 11/9/12 Quantities | 11/13/12 Revised Quantities |
|---|---|---|
| Box Cut | 450,000 | 450,000 |
| Access Road Construction | 300,000 | 300,000 |
| East Diversion Channel | 115,000 | 115,000 |
| West Diversion Channel | 80,000 | 125,000 |
| Sewage Lagoons | 10,000 | 10,000 |
| Mill Site | 10,000 | 10,000 |
| Wetland Construction | - | 200,000 |
| Existing Waste Rock Pile | - | 12,000 |
| Total | 965,000 | 1,222,000 |
| Required Soil Quantity | | 1,600,000 |
| Soil under Stockpile/Staging Areas | | 378,000 |

**The additional 378,000 cubic yards obtained from underneath the stockpile/staging areas will only be needed at TDF closure. All Construction Staging Areas and TDF Cap Borrow Areas as shown on Figure 1 will also be excavated to cap the TDF.**

Provide additional information relative to project mitigation plans.

**Attached are completed wetland mitigation plans for our on-site creation activities. We are proposing on-site compensatory wetland mitigation through the creation from upland of approximately 18.3 acres of wetland. Of this total, 11.7 acres of forested wetland and 2.6 acres of emergent wetland are proposed in the vicinity of the Gipsy Creek impoundment (see enclosed Wetland Mitigation Plan Sheets 1-6). Wetlands will be created primarily through excavation and the control of surface water through the use of**

**stop-log control structures. Hydrologic inputs will be provided during periods of high water from the impoundment as well as from the West Branch of Gipsy Creek. Creation of these wetlands will have incidental permanent wetland impacts of 0.04 acres as a result of grading activities. There will also be 0.7 acres of existing wetland areas incorporated into the created wetland areas which will be enhanced with plantings of native herbaceous and tree species along with the created wetlands. In addition to the Gipsy Creek impoundment site, approximately 4 acres of wetland are proposed to be created in association with the east and west TDF diversion channels (see TDF Stream Relocation Plan Sheets 1-11 submitted November 9, 2012) . These forested and emergent wetlands will be created within the channel belt width floodplain and will receive hydrologic inputs during periods of high water as well as surface runoff from adjoining upland.**

**With respect to our proposed stream mitigation concepts, attached please find our narrative description of our proposed activities (Stream Mitigation Summary).**